

ABSTRACT

[00027] With many coated plates, in particular zinc (galvanized) and organic coated sheet metal as are employed in the automobile industry, the coating material has a significantly lower boiling point than the melting point of the sheet metal material. Therefore in the case of laser welding of this type of sheet metal with zero gap in the overlap abutment area to a explosion like vaporization of coating material, which take along or entrain molten sheet metal material and strongly damage the quality of the joint. For improving the connection it has already been proposed that no gap be provided between the sheets, but rather these are positioned directly over each other and then first by means of first laser beam to warm until vaporization of the coating and subsequently to weld the uncoated sheets by means of a second laser beam. The disadvantage therein is above all the elaborate apparatus set up or complexity for the two required optical systems.

The task of the present invention is thus comprised therein, to reduce the apparatus complexity and at the same time to at least maintain the work quality, preferably to improve it.

The task is solved by a process in which by means of a signal laser beam first all plates can be uncoated and thereafter the plates are welded along the uncoated area with the same laser beam.